

Table S2a. Association of DNAm at 24 CpGs with their mapped genes' expression levels on autosomes that are sex-specific. Only results on CpGs showing statistically significant interaction effects of DNAm×sex on gene expression were shown. Males are in the reference group. The p-values are for interaction effects.

CpG	Gene	DNAm effect	Sex×DNAm interaction effect	p-value (Sex×DNAm)	Sample size
cg21657705	<i>ACE</i>	-0.64	1.09	2.82×10^{-3}	139
cg12455187	<i>CCL5</i>	1.25	-1.38	7.00×10^{-4}	139
cg19411729	<i>CCL5</i>	-2.07	0.59	4.25×10^{-2}	139
cg00162643	<i>DDX58</i>	-0.68	0.83	7.07×10^{-3}	139
cg24354612	<i>ICAM1</i>	0.11	-0.53	4.12×10^{-2}	139
cg14145194	<i>ICAM3</i>	-0.25	0.71	2.12×10^{-2}	139
cg02935305	<i>MAPK14</i>	0.11	-0.44	4.20×10^{-2}	139
cg26974281	<i>MAPK14</i>	0.78	-0.92	1.11×10^{-2}	139
cg09726469	<i>MCL1</i>	0.80	-1.07	1.37×10^{-2}	139
cg00840694	<i>MYOM2</i>	1.03	-2.04	3.19×10^{-2}	139
cg15456293	<i>MYOM2</i>	2.02	-2.27	3.27×10^{-2}	139
cg20219329	<i>MYOM2</i>	0.80	-1.60	3.09×10^{-2}	139
cg20559158	<i>MYOM2</i>	1.81	-2.94	8.42×10^{-3}	139
cg20638896	<i>MYOM2</i>	-2.11	2.60	3.25×10^{-2}	139
cg21844893	<i>MYOM2</i>	2.95	-3.74	1.28×10^{-2}	139
cg25541958	<i>MYOM2</i>	1.54	-3.58	3.27×10^{-2}	139
cg11373557	<i>POLD1</i>	-0.45	0.63	1.70×10^{-2}	139
cg09369818	<i>TFR2</i>	0.36	-0.40	2.24×10^{-2}	139
cg11860203	<i>CCL2</i>	0.72	-2.74	4.48×10^{-2}	130
cg27038101	<i>CTRL</i>	2.12	-2.50	3.20×10^{-2}	67
cg04038163	<i>CXCL9</i>	0.45	-1.09	4.03×10^{-2}	133
cg15096505	<i>IL10</i>	-3.17	2.30	3.11×10^{-3}	132
cg17744604	<i>IL10</i>	-1.38	1.41	1.86×10^{-2}	132
cg02335517	<i>IL6</i>	0.58	-1.62	2.01×10^{-2}	106

For instance, with one unit increase in DNAm levels of cg21657705, the expression of *ACE* gene is downregulated by 0.64 units in males while it upregulates *ACE* expression by 0.45 units (=1.09-0.64) in females.

Table S2b. Association of DNAm at 93 CpGs with their mapped genes' expression levels on autosomes that are sex-nonspecific. Only results on CpGs showing statistically significant DNAm effects on gene expression were shown. Males are in the reference group.

CpG	Gene	DNAm effect	P-value	Sample size
cg02261408	<i>ACE</i>	0.68	3.05×10^{-2}	139
cg10468385	<i>ACE</i>	-0.43	1.54×10^{-2}	139
cg19802564	<i>ACE</i>	-0.65	1.13×10^{-2}	139
cg20622019	<i>ADA</i>	-0.35	2.22×10^{-4}	139
cg05312779	<i>ANPEP</i>	0.67	1.10×10^{-3}	139
cg05985767	<i>ANPEP</i>	0.44	1.58×10^{-3}	139
cg06963233	<i>ANPEP</i>	-0.35	4.52×10^{-3}	139
cg07096901	<i>ANPEP</i>	0.45	4.30×10^{-3}	139
cg12382398	<i>ANPEP</i>	-0.42	4.51×10^{-4}	139
cg19405555	<i>ANPEP</i>	-0.24	4.79×10^{-2}	139
cg23161492	<i>ANPEP</i>	-0.38	1.83×10^{-3}	139
cg07679836	<i>BAK1</i>	-0.55	1.52×10^{-9}	139
cg24505687	<i>BAK1</i>	-0.57	3.11×10^{-8}	139
cg00447324	<i>CCL5</i>	-0.88	1.93×10^{-6}	139
cg02483931	<i>CCL5</i>	-0.75	2.90×10^{-3}	139
cg02867514	<i>CCL5</i>	-1.62	6.88×10^{-15}	139
cg08656816	<i>CCL5</i>	-1.72	6.03×10^{-15}	139
cg10315334	<i>CCL5</i>	-1.79	2.98×10^{-17}	139
cg11811510	<i>CEACAM1</i>	-0.50	2.14×10^{-4}	139
cg19776453	<i>CEACAM1</i>	-1.12	6.56×10^{-4}	139
cg05626117	<i>CLEC4G</i>	0.64	1.06×10^{-3}	139
cg05842480	<i>CLEC4G</i>	0.81	2.83×10^{-2}	139
cg21693780	<i>DDX1</i>	-0.30	4.02×10^{-2}	139
cg14286514	<i>DDX58</i>	0.29	1.20×10^{-2}	139
cg12649175	<i>DPP4</i>	0.50	2.42×10^{-2}	139
cg15353603	<i>DPP4</i>	-0.90	5.01×10^{-10}	139
cg20053454	<i>DPP4</i>	-0.47	6.67×10^{-3}	139
cg20427486	<i>DPP4</i>	-0.79	6.38×10^{-8}	139
cg04946721	<i>ERN1</i>	-0.29	1.85×10^{-2}	139
cg20998539	<i>ERN1</i>	-0.90	5.22×10^{-3}	139
cg12015851	<i>FURIN</i>	0.17	1.49×10^{-2}	139
cg12075901	<i>FURIN</i>	-0.23	1.28×10^{-2}	139
cg19348484	<i>FURIN</i>	-0.27	4.43×10^{-4}	139
cg06334471	<i>HELLS</i>	-0.26	1.25×10^{-2}	139
cg07489134	<i>HELLS</i>	-0.59	1.18×10^{-2}	139
cg02776148	<i>ICAM1</i>	0.26	1.38×10^{-2}	139
cg13981319	<i>ICAM3</i>	-0.27	1.96×10^{-2}	139

cg26972937	<i>ICAM3</i>	0.59	1.05×10^{-2}	139
cg06046490	<i>IFITM3</i>	-0.72	2.42×10^{-6}	139
cg08596817	<i>IFITM3</i>	-0.98	6.33×10^{-7}	139
cg20008734	<i>IFITM3</i>	-1.11	3.98×10^{-7}	139
cg21052403	<i>IFITM3</i>	-1.44	5.46×10^{-5}	139
cg24897127	<i>IFITM3</i>	-0.64	1.56×10^{-2}	139
cg18517766	<i>IRF3</i>	0.33	5.52×10^{-3}	139
cg05495029	<i>BCL2L12</i>	-0.42	1.93×10^{-3}	139
cg21035241	<i>BCL2L12</i>	-0.47	9.89×10^{-4}	139
cg05495029	<i>IRF3</i>	-0.37	1.84×10^{-3}	139
cg06490385	<i>IRF3</i>	-0.25	6.46×10^{-3}	139
cg21035241	<i>IRF3</i>	-0.37	2.67×10^{-3}	139
cg16145324	<i>MAPK14</i>	-0.27	9.98×10^{-3}	139
cg17498313	<i>MAPK14</i>	0.38	1.52×10^{-2}	139
cg17327331	<i>MPP5</i>	0.79	1.49×10^{-4}	139
cg13507964	<i>MX1</i>	-0.74	6.91×10^{-3}	139
cg16785077	<i>MX1</i>	-1.25	6.72×10^{-4}	139
cg21549285	<i>MX1</i>	-1.05	1.58×10^{-7}	139
cg22862003	<i>MX1</i>	-1.63	4.40×10^{-7}	139
cg26312951	<i>MX1</i>	-1.45	9.67×10^{-7}	139
cg00319223	<i>MYOM2</i>	0.78	2.88×10^{-2}	139
cg00527552	<i>MYOM2</i>	1.35	6.48×10^{-3}	139
cg00535538	<i>MYOM2</i>	-2.24	4.88×10^{-7}	139
cg06445972	<i>MYOM2</i>	1.35	4.16×10^{-2}	139
cg14696926	<i>MYOM2</i>	-0.64	4.37×10^{-2}	139
cg19307543	<i>MYOM2</i>	-1.18	2.86×10^{-6}	139
cg21816685	<i>MYOM2</i>	0.71	3.35×10^{-2}	139
cg00420742	<i>NLRP12</i>	-0.30	2.89×10^{-2}	139
cg22337438	<i>NLRP12</i>	-0.39	1.05×10^{-3}	139
cg00450979	<i>POLD1</i>	0.22	1.55×10^{-2}	139
cg11964938	<i>POLD1</i>	-0.30	2.69×10^{-2}	139
cg08300117	<i>PPIA</i>	0.28	2.18×10^{-2}	139
cg26307266	<i>PPIA</i>	-0.21	3.63×10^{-2}	139
cg01036779	<i>SH2D3A</i>	-0.57	2.26×10^{-3}	139
cg09962952	<i>SH2D3A</i>	0.26	1.73×10^{-2}	139
cg14530382	<i>SH2D3A</i>	0.37	2.09×10^{-9}	139
cg15055101	<i>SH2D3A</i>	-1.31	3.69×10^{-14}	139
cg01919768	<i>TFR2</i>	-0.35	1.15×10^{-2}	139
cg03808577	<i>TFR2</i>	0.47	2.37×10^{-2}	139
cg04002480	<i>TFR2</i>	-0.47	6.95×10^{-4}	139
cg04423314	<i>TFR2</i>	0.48	2.87×10^{-4}	139
cg10681065	<i>TFR2</i>	0.63	4.37×10^{-5}	139
cg01360627	<i>TNF</i>	-0.43	9.83×10^{-7}	139

cg04472685	<i>TNF</i>	-0.41	2.26×10^{-3}	139
cg15989608	<i>TNF</i>	-0.59	8.24×10^{-7}	139
cg20477259	<i>TNF</i>	-0.54	4.57×10^{-6}	139
cg23384708	<i>TNF</i>	-0.56	1.19×10^{-5}	139
cg24452282	<i>TNF</i>	-0.48	1.35×10^{-5}	139
cg26736341	<i>TNF</i>	-0.59	3.58×10^{-6}	139
cg13495204	<i>ALB</i>	-0.63	5.00×10^{-2}	93
cg02185216	<i>GPT</i>	0.48	1.69×10^{-2}	105
cg20545776	<i>GPT</i>	1.86	7.36×10^{-4}	105
cg00848007	<i>IFNG</i>	-0.76	8.92×10^{-4}	126
cg01281450	<i>IFNG</i>	-1.20	2.23×10^{-4}	126
cg01940810	<i>IFNG</i>	-1.22	4.30×10^{-8}	126
cg26227465	<i>IFNG</i>	-1.44	1.04×10^{-7}	126

Table S2c. Association of DNAm with their mapped genes' expression levels on sex chromosomes

Gender	CpG	Gene	DNAm effect	P-value	Sample size
Male	cg23907260	<i>CD40LG</i>	0.55	8.40×10^{-3}	139